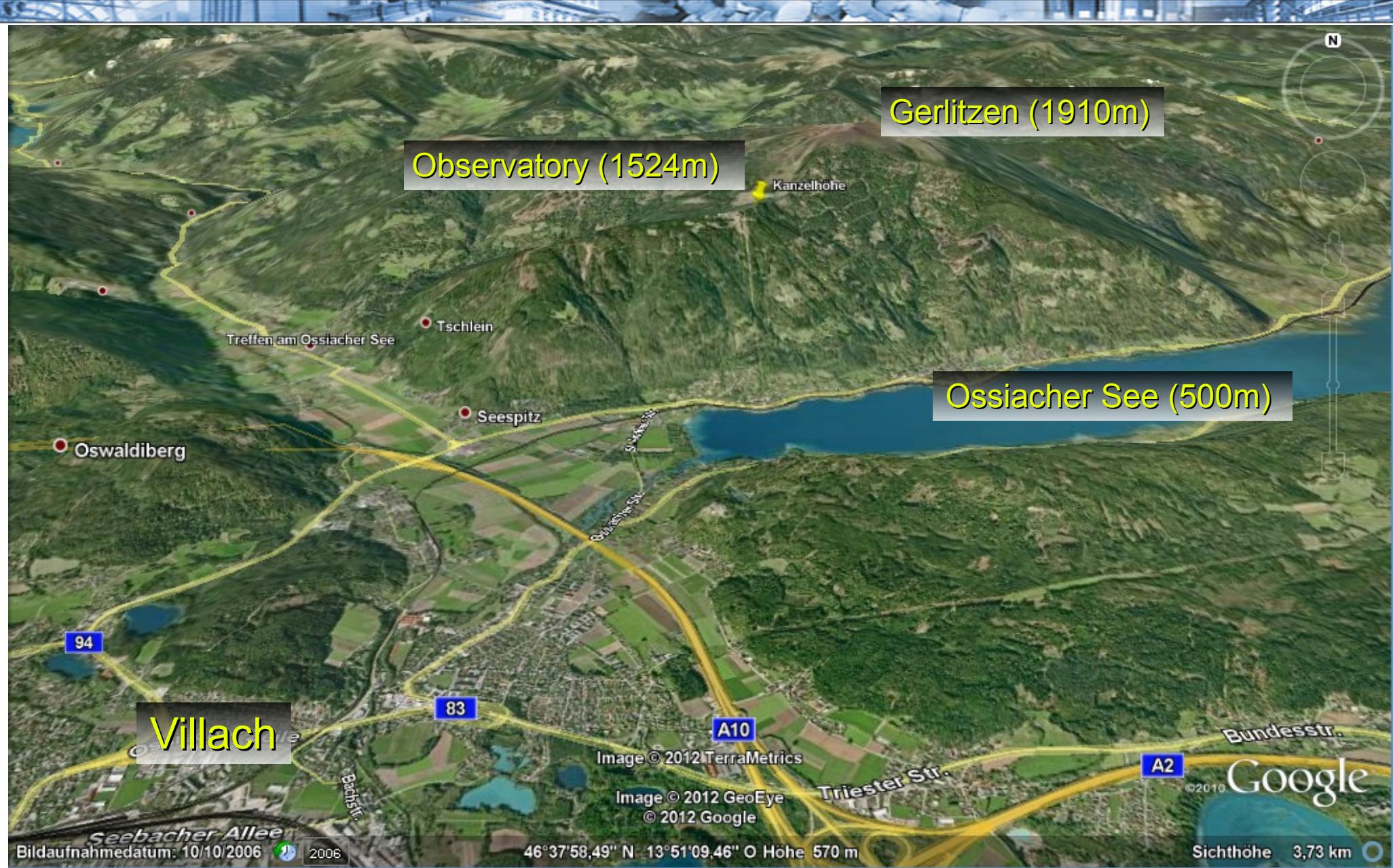


The Observatory Kanzelhöhe





The Observatory is part of the
Institute of Physics
University of Graz

200 km away from the University (2hours)
→ own infrastructure

- Library
- IT-Center
- Workshops (optical, mechanical and electronic)
- Guesthouse

Core-Personel: employed at University

2 Scientists:

Poetzi – Solar Physics

Baumgartner – Radiation Measurements

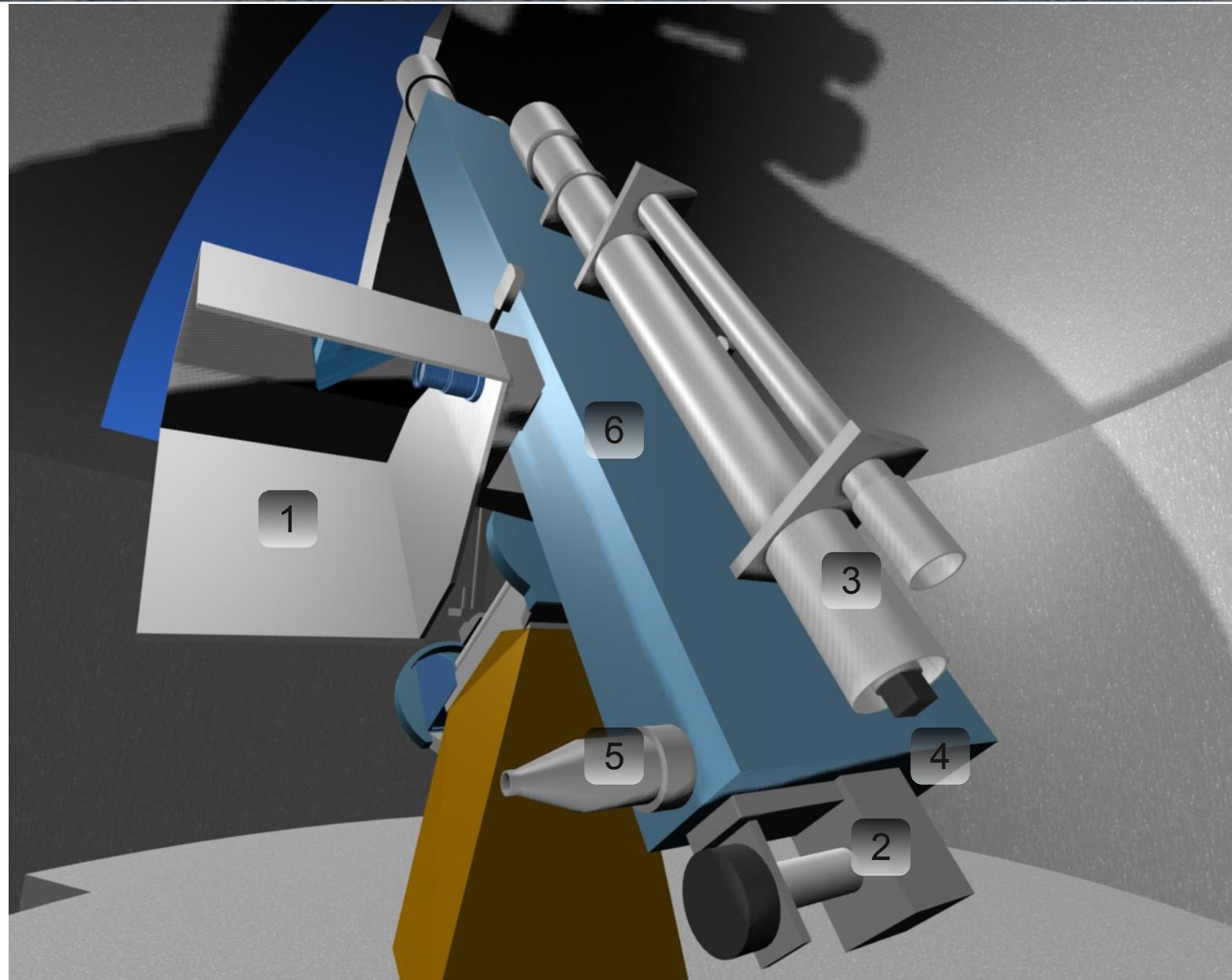
1 Technician (Freislich)

1 Housekeeper (Strutzmann)

1 additional observer: Hirtenfellner (external funding)

The Patrol Instrument

- 1 Drawing
- 2 H α Telescope
- 3 Whitelight Telescope
- 4 CaIIK Telescope
- 5 H α Eyepiece
- 6 Guiding Telescope



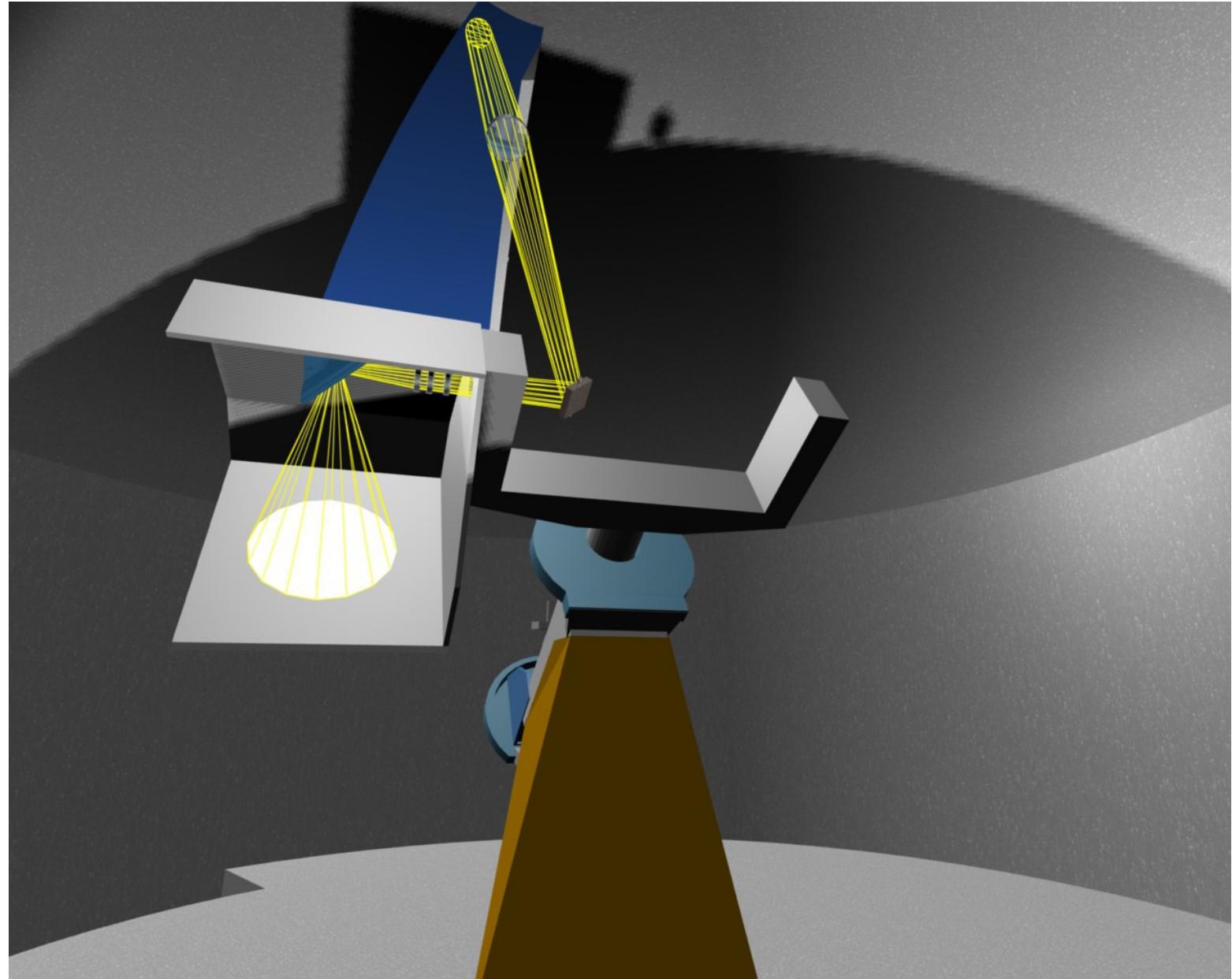
Drawing Device

Focal length: 1650mm

Diameter: 110 mm

Size of Solar Disc:
250 mm

Due to mirrors the
image is side
reversed (W is left!)



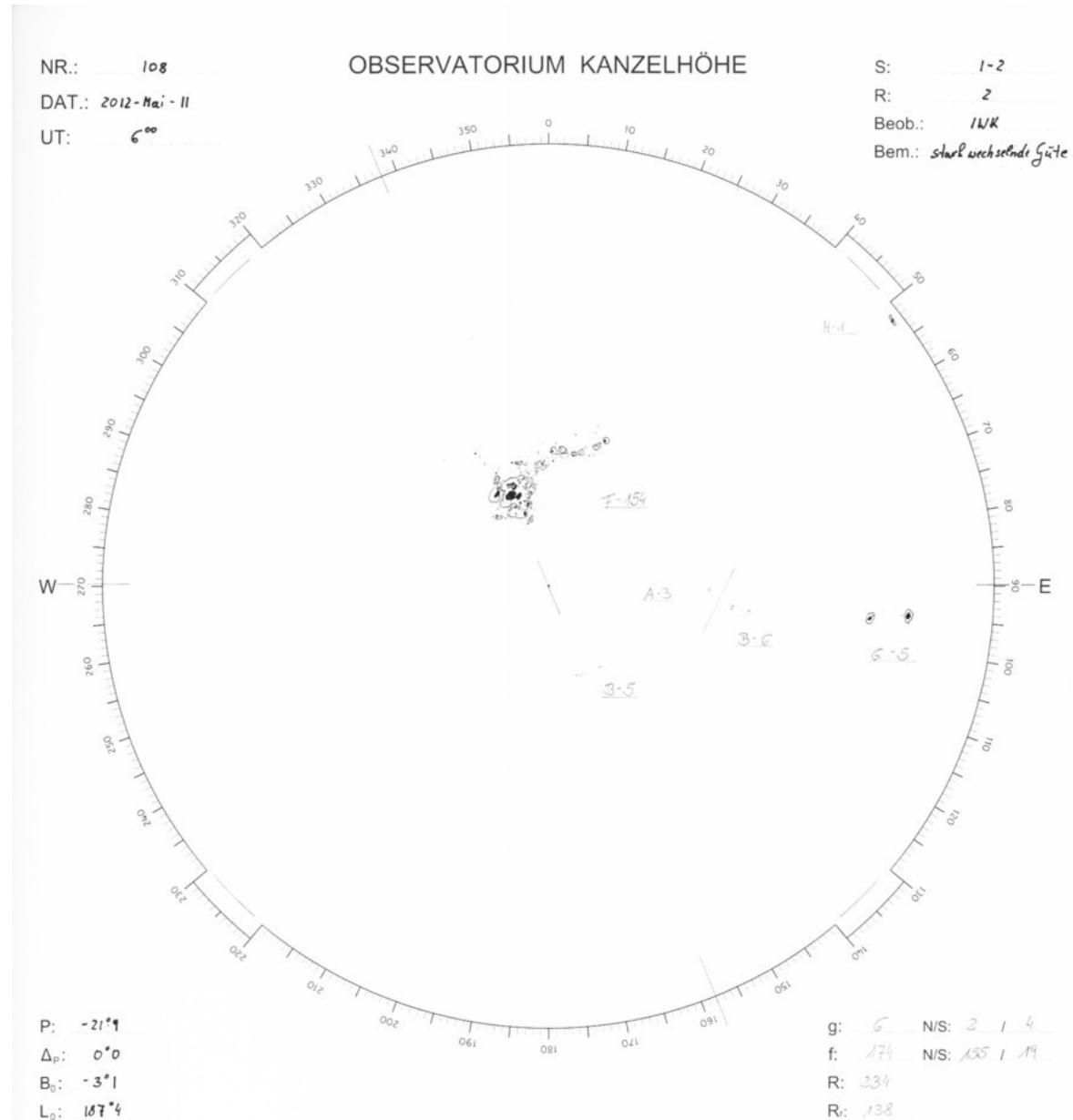
From 2011 on the north and south spots were denoted separately on the drawings (new templates were necessary).

The weather conditions are not written onto the drawing anymore, we have 2 numbers for the quality:

Sharpness: 1 (good) – 5
Quietness: 1 (quiet) - 5

But a separate counting of north and south spots exists since 2003-12-01.

2012-05-11



H-Alpha Telescope

Focal length: 2000 mm

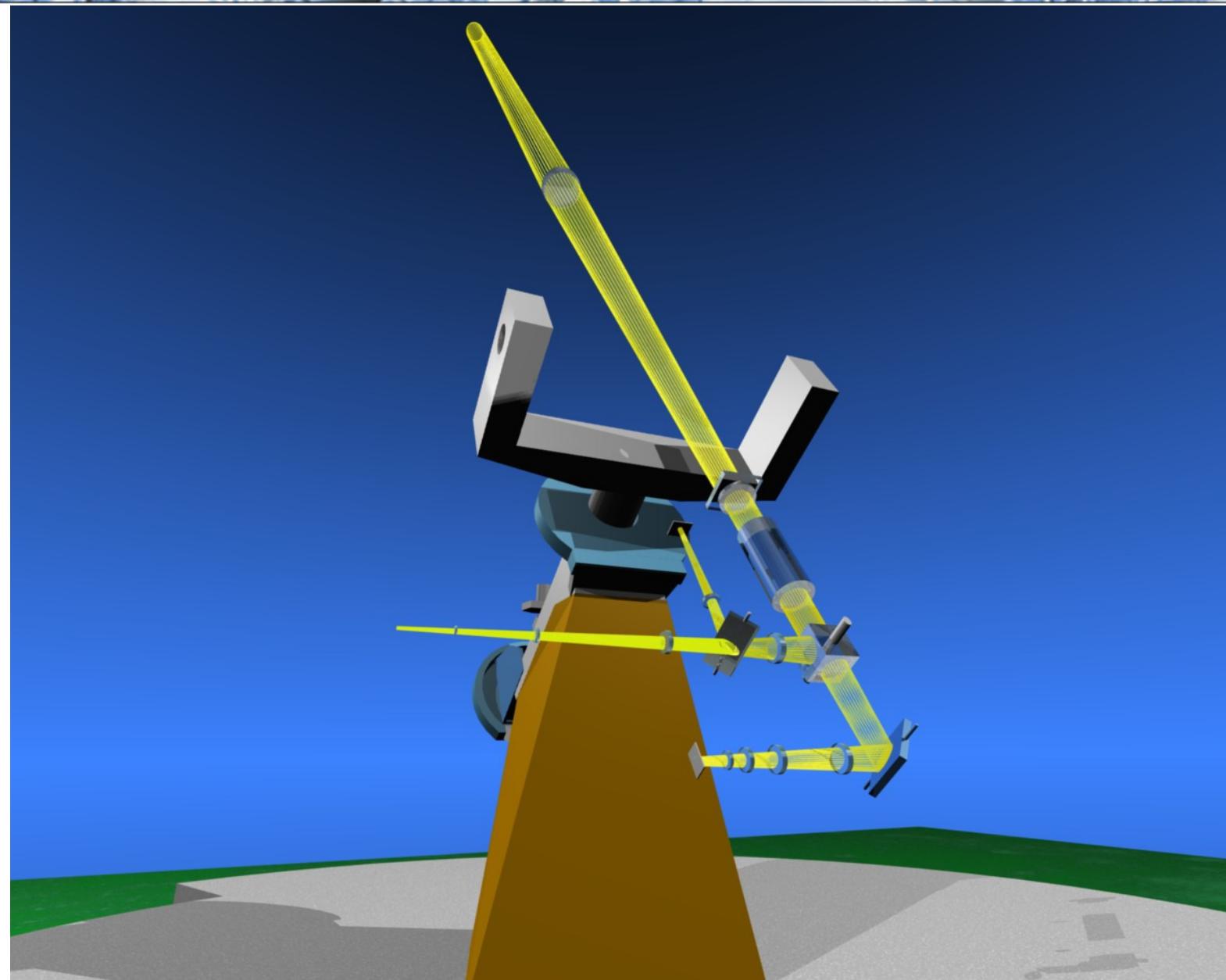
Diameter: 100 mm

Zeiss-Lyot Filter:
FWHM 0.7 Å

4 MegaPixel 12 bit
(patrol)

1 MegaPixel 10 bit
(guiding)

1 Eyepiece

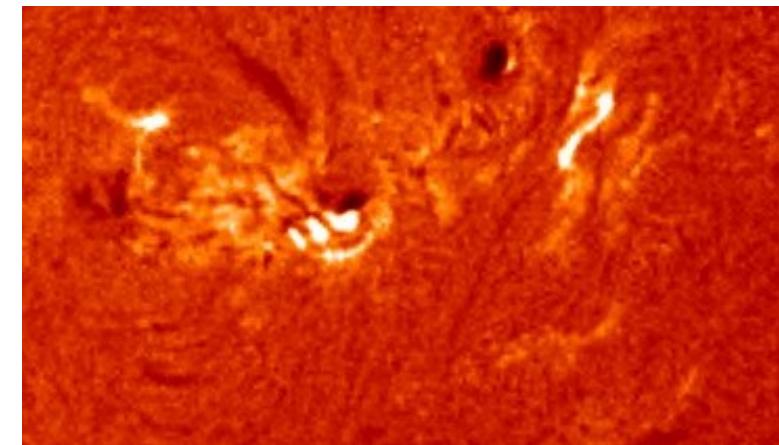


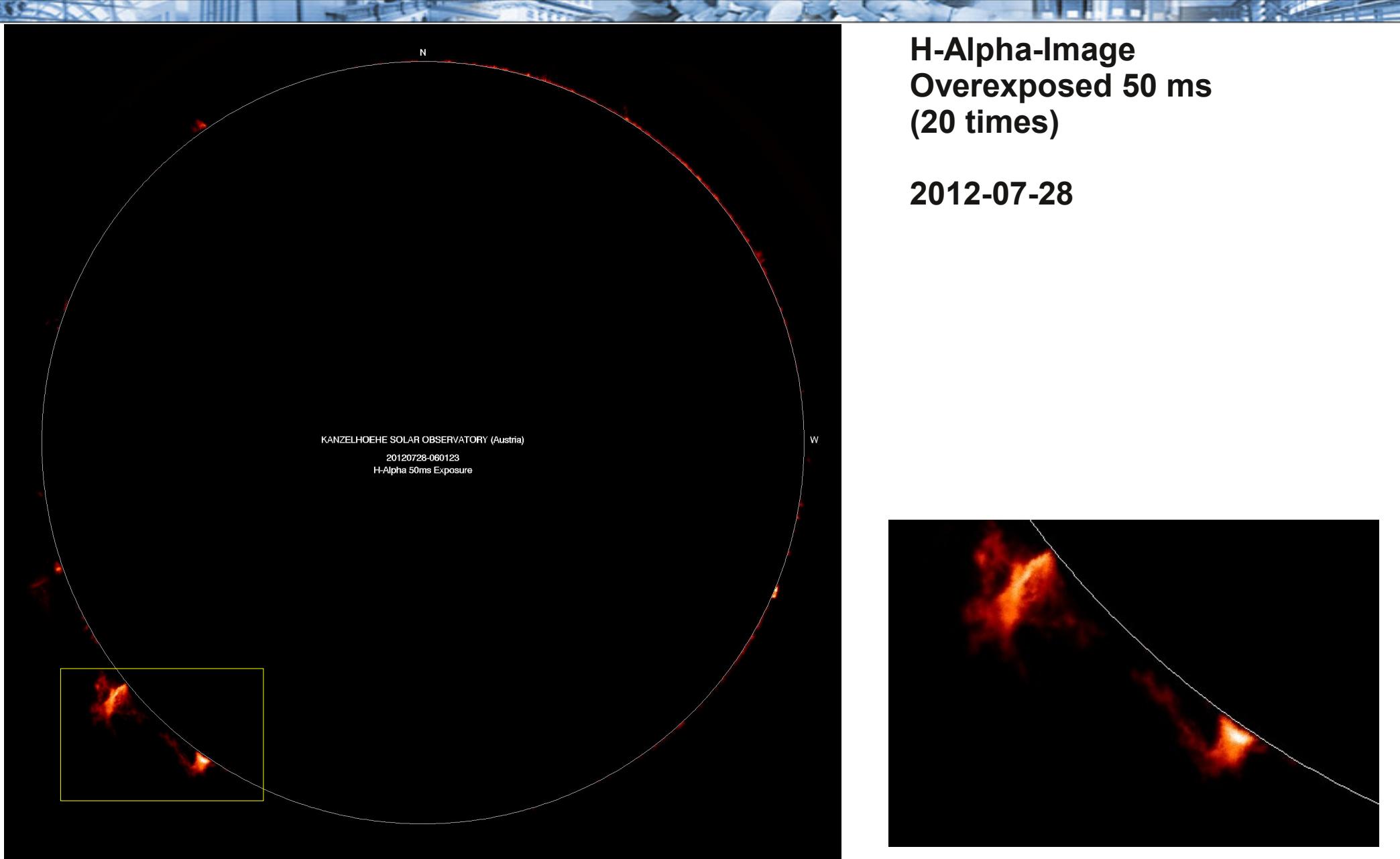
KANZELHÖHE SOLAR OBSERVATORY (Austria)
H α 2012-07-05T06:56:22Z

N

100000 km

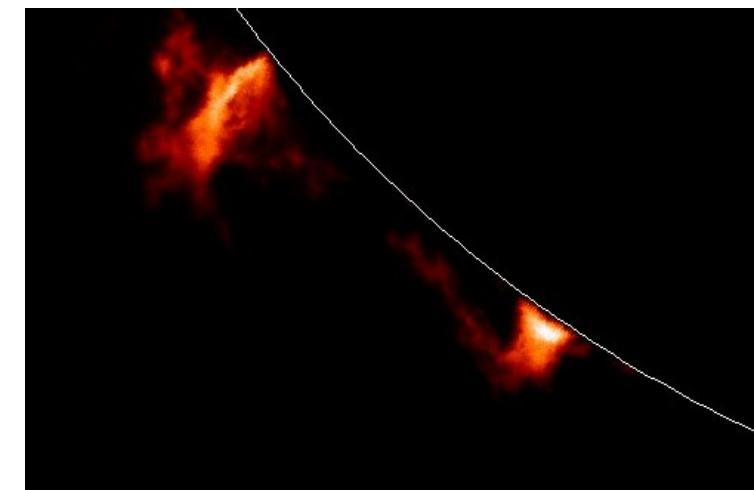
H-Alpha-Image
2012-07-05





H-Alpha-Image
Overexposed 50 ms
(20 times)

2012-07-28

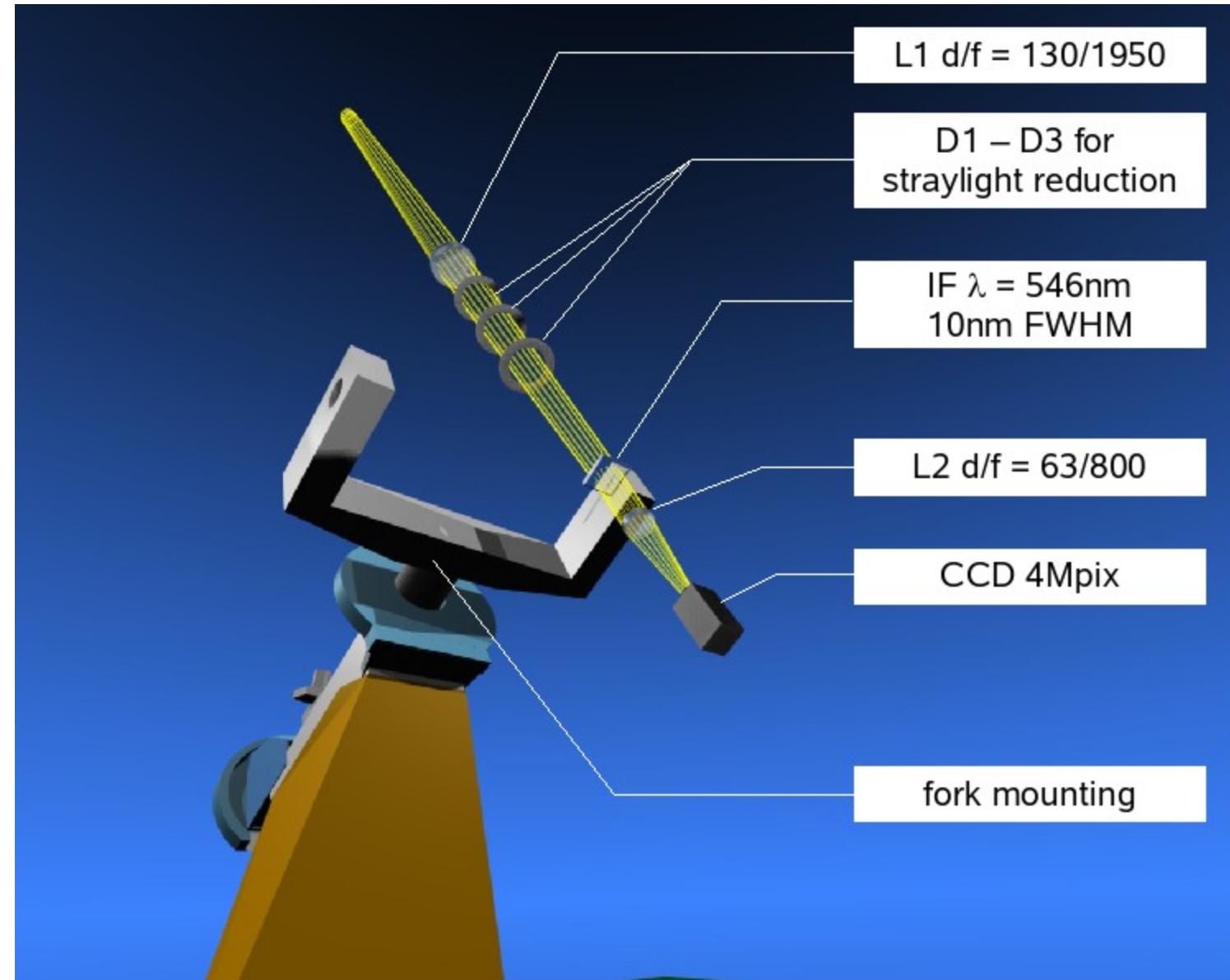


Whitelight Telescope

Focal length: 1950 mm
Diameter: 130 mm

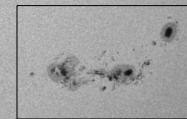
Interference Filter:
CWL 546 nm
FWHM 100 Å

4 MegaPixel 10 bit
(patrol)



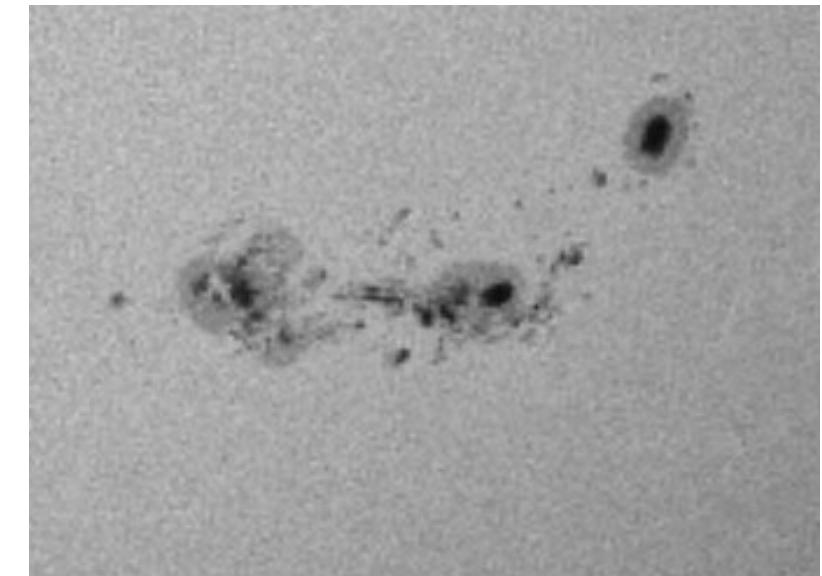
KANZELHÖHE SOLAR OBSERVATORY (Austria)
Continuum 2012-07-05T07:53:43Z

H



100000 km

**Whitelight-Image
2012-07-05**



CaIIK Telescope

Focal length: 1650 mm

Diameter: 110 mm

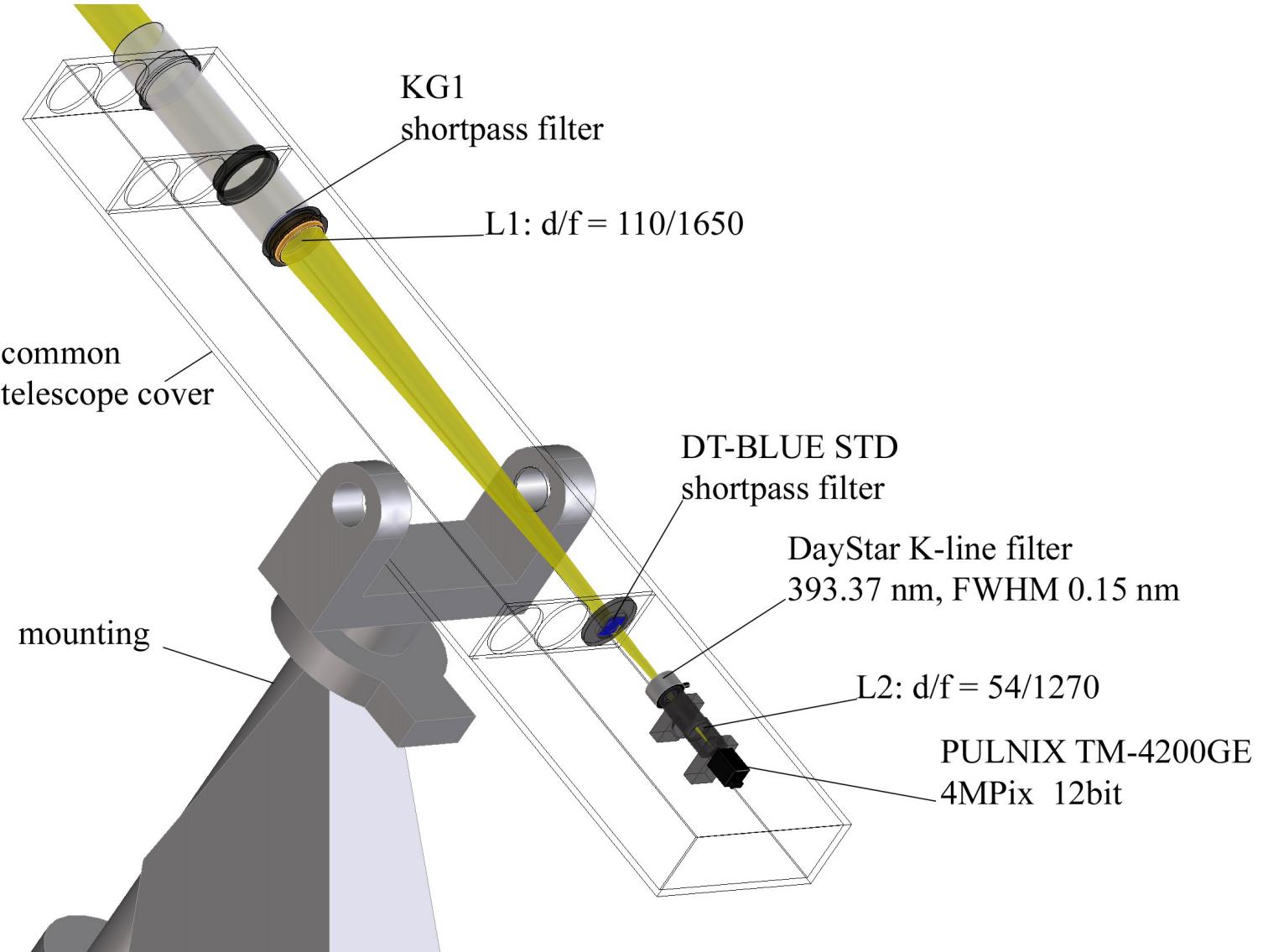
Filter DayStar (faulty):

CWL 393 nm

FWHM 3 Å

will be changed to
Lunt Filter

4 MegaPixel 12 bit
(patrol)

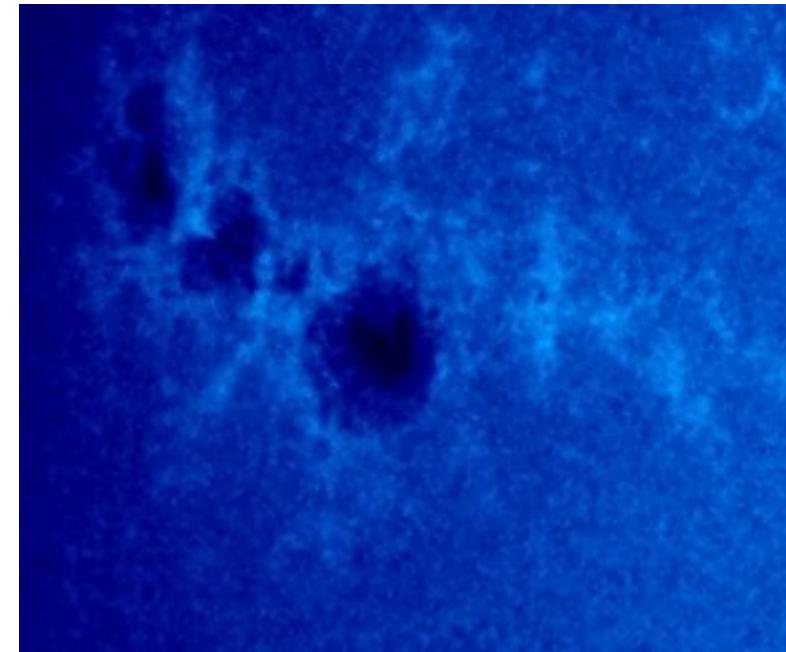


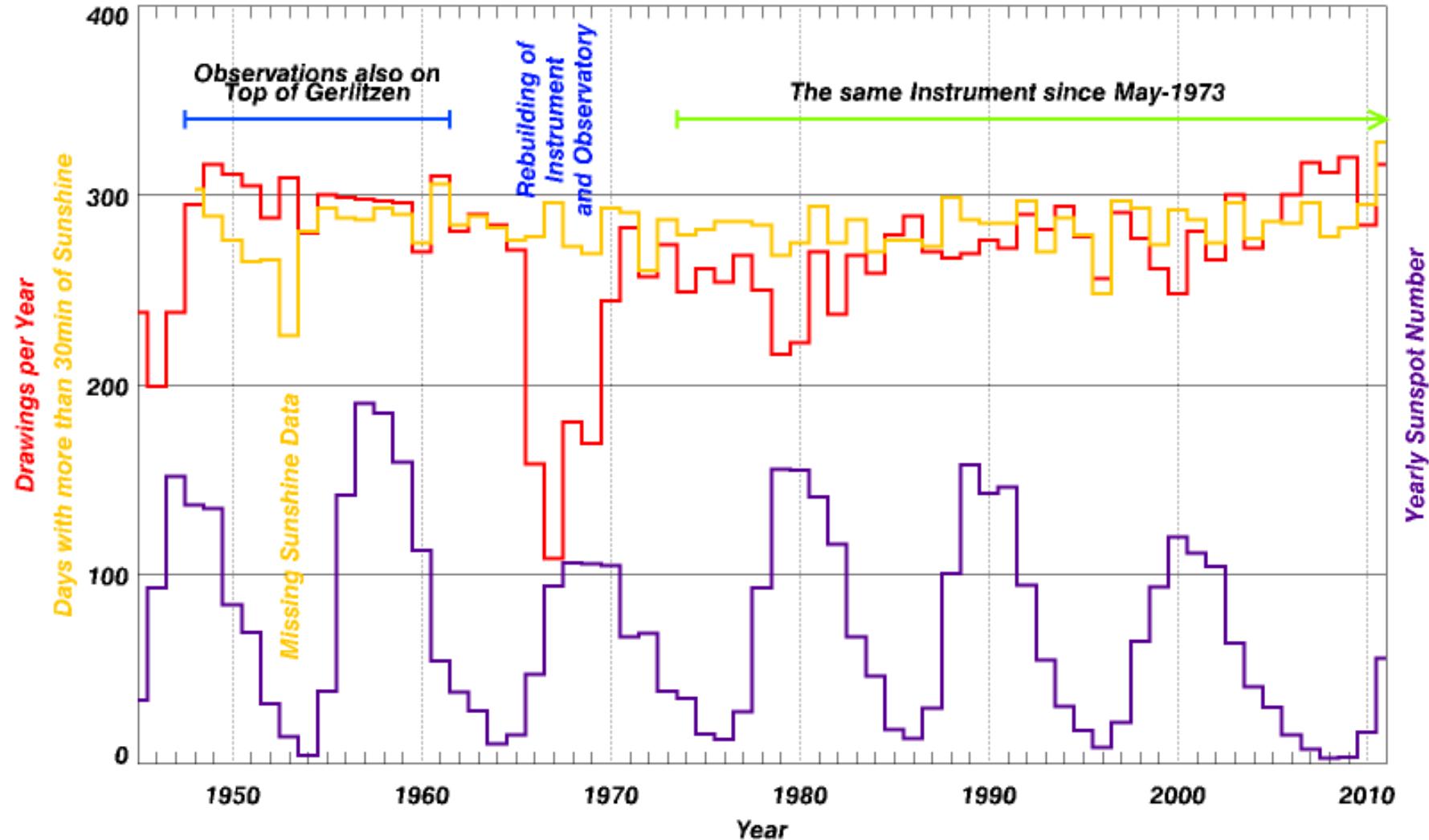
KANZELHÖHE SOLAR OBSERVATORY (Austria)
Ca 2011-09-24T14:02:17Z

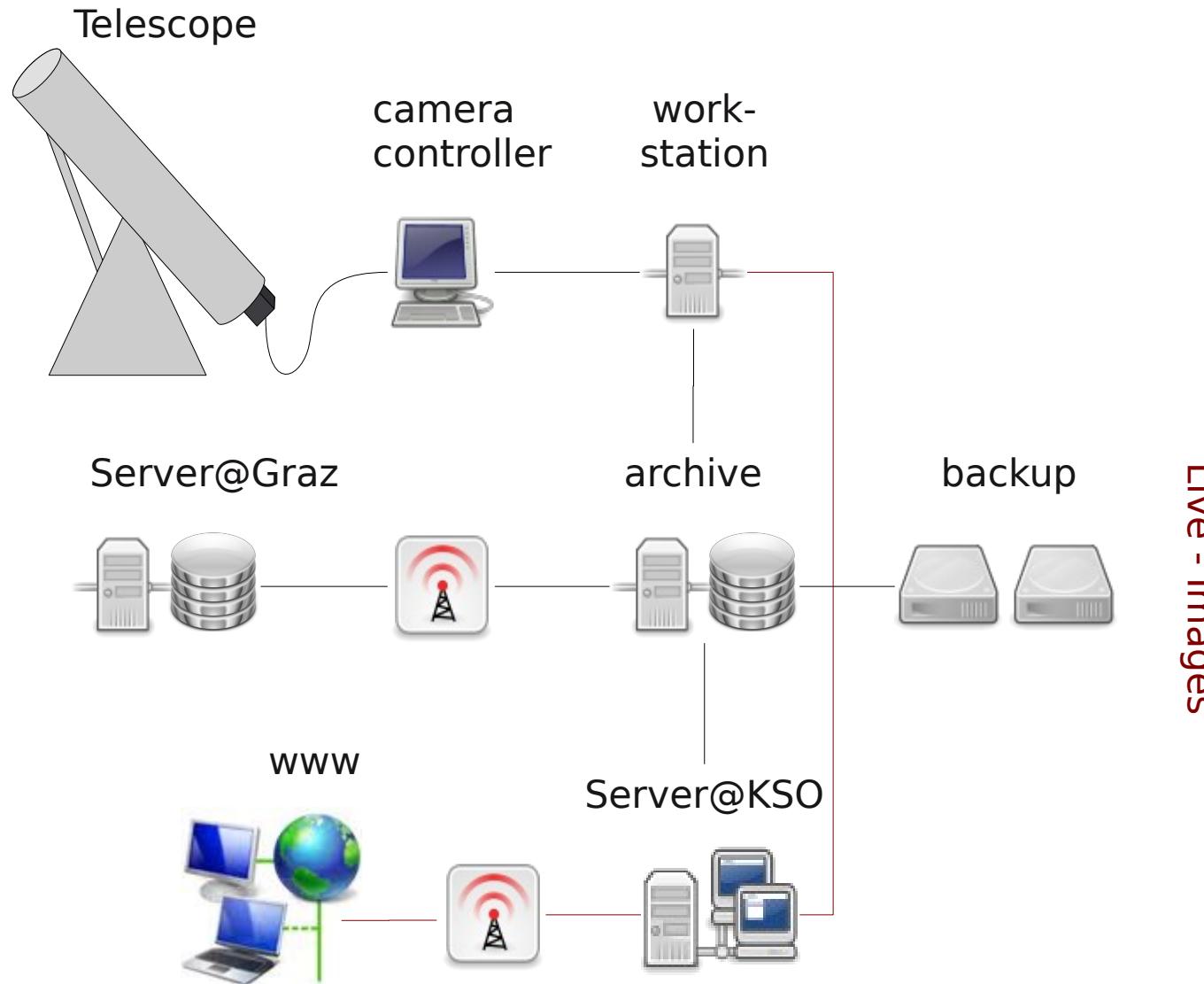
N

100000 km

CaIIK-Image
2012-07-05







User I/F at camera controller PC

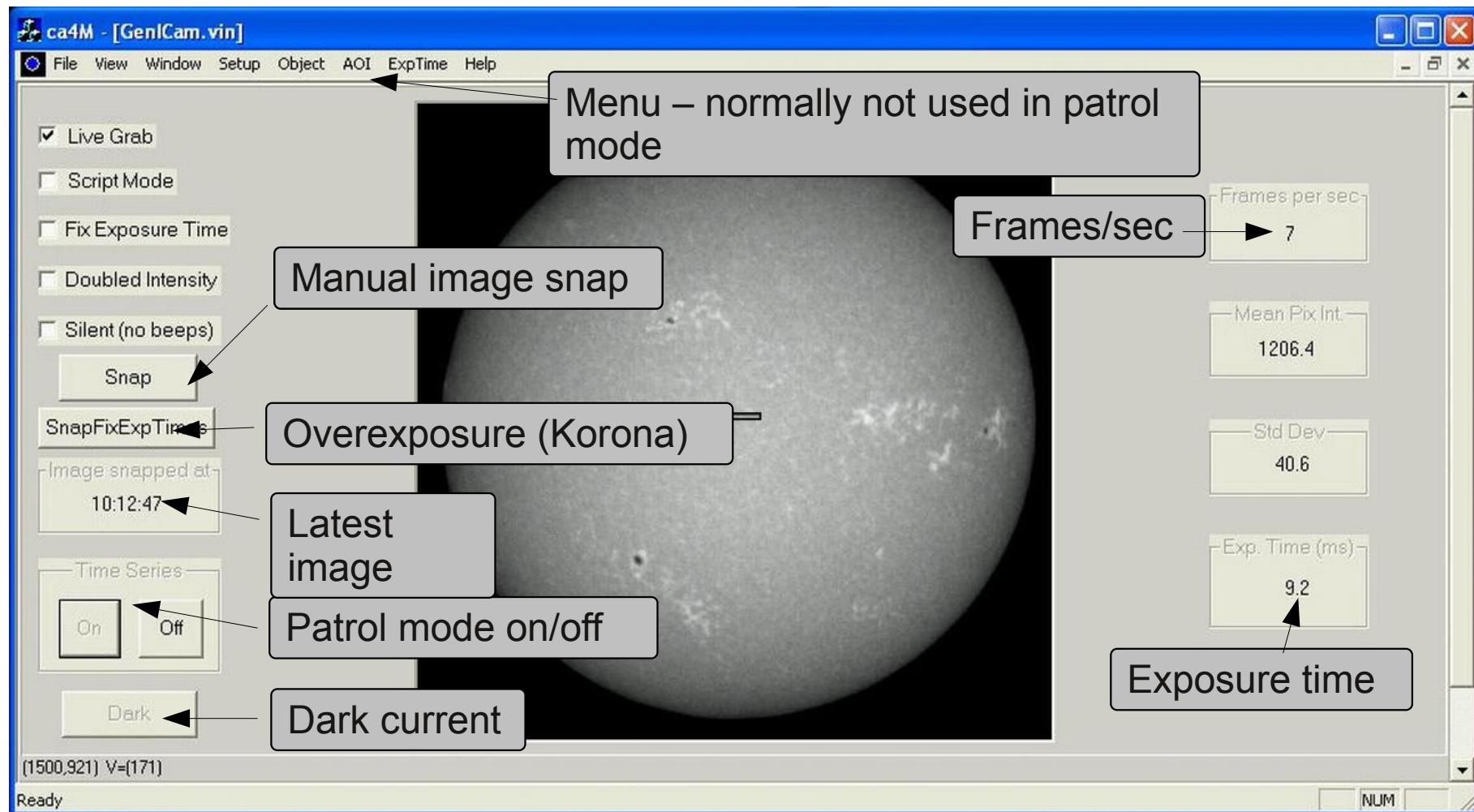


Image processing after sunset

The images are moved from the camera controller PCs to the workstation for processing:

1. Check of image size
2. Select images at fixed intervals (1 min Ha and CaIIK, 5 min Whitelight) with Optimal Window Method
3. flares: select all files during flares and 10 min before and after (optical flares and X-ray > C3 for Ha; X-ray > C7 for CaIIK; X-ray > M1 for Whitelight)
4. Update Header-Info for FITS, produce a JPEG and remove bad Data (Clouds)

6. Daily movie in avi-MPEG4 format
7. Move data to 2 archives and make one local backup
8. File information to database KEAS – Kanzelhöhe Electronic Archive System
9. Make flaremovies, in case of flares (H-Alpha, CaIIK)
10. Copy data to Graz (kanzelhohe.uni-graz.at)

Everything is done automatically – we only get emails from the processing tools in order to check, if everything is OK.

Camera Controller:

System Windows XP/2000

Software C++, Common Vision Blox Libraries, Perl

Hardware Standard PC, Gigabit Ethernet (2x)

Workstation:

System Linux

Software IDL, MySql, Perl, ffmpeg

Hardware 8 processors, 8GB Ram, Gigabit Ethernet
Raid (2 TB)

Weather Station

Temperature: T2m, T5cm, T-10cm, T-20cm, T-50cm

Rel. Humidity, Air Pressure, Global Radiation, Sunshine Duration

Wind Speed, Wind Direction, Snow Height, Rain, Precipitation



Radiation Measurements

UV-A, UV-B, Global Radiation, Direct
Radiation, Diffuse Radiation,
Photosynthetic Active Radiation
Tests for Sensor Housings





Kanzelhöhe Observatory Synoptic Archives



Navigation	Archives	Docs & Info	About	Links
Recent Data <ul style="list-style-type: none">» Last H-alpha» Last Whitelight-- Last Week<ul style="list-style-type: none">» Photosphere» Chromosphere» Sunspot SummaryFull Archive Data<ul style="list-style-type: none">» Koda Archive GrazSearch<ul style="list-style-type: none">» Observed Flares» WL Heliograms» KSO observing logsDaily Synoptic<ul style="list-style-type: none">-- Synoptic Calendar<ul style="list-style-type: none">» Daily Overview» Sunspot Drawings» Hα - 1 MPixel Digital» Hα - 4 MPixel Digital» WL Digital» CaIIK Digital» WL on Film» Hα on Film» Sunspot Numbers-- Sunspot Data<ul style="list-style-type: none">» Debrecen Photoh. DataTools<ul style="list-style-type: none">» Solar Ephemeris	2012-06-05 Solar Ephemeris for 12:00 UT (Julian Date: 2456084.000) $P = -13.6^\circ$ $B_0 = -0.1^\circ$ $L_0 = 213.3^\circ$ Carr# 2124 Dist. = 1.015 AU App. Diam. = 1892' Sunrise@KSO 03:11 UT Sunset 18:50 UT			
	Sun - Photosphere for 2012-06-05	Sun - Chromosphere for 2012-06-05		
	 Kanzelhöhe Sunspot Drawing 05:30 *.JPG Side reversed! Synoptic Archives...	 Kanzelhöhe Hα / Global Hα Network 05:27 Synoptic *.jpg *.fits.gz Normalized *.jpg *.fits.gz Movie Flares... Koda Archive...		
	 Kanzelhöhe Continuum 05:27 Synoptic *.jpg *.fits.gz Normalized *.jpg *.fits.gz Movie Koda Archive...	 Kanzelhöhe Ca II K 05:27 Synoptic *.jpg *.fits.gz Normalized *.jpg *.fits.gz Movie Koda Archive...		
	R = 114 g = 9 f = 91 05:30 from Kanzelhöhe Sunspot Drawing Flare Events	 Kanzelhöhe Hα Prominence Images 05:52 Synoptic Archives...		
	← 2012-06-04	2012-06-05	2012-06-06 →	
	Panorama: 2012-06-05 12:00 (UT) 			
» KSO Homepage	» Institute of Geophysics, Astrophysics and Meteorology	» University of Graz	» Contact	

